



PERCY LAVON JULIAN, Ph.D., Sc.D., LL.D., L.H.D., 1899-

No man, having put his hand to the plough, and looking back, is fit for the kingdom of god. Luke 9:62.

Dr. Percy L. Julian, founder and director of the Julian Research Institute, Franklin Park, Illinois, is a chemist of international distinction. Beyond "any possible, probable shadow of doubt, any possible doubt whatever," he is the most eminent living Negro scientist. Of those departed, only the work of the Howard University biologist, Dr. Ernest Everett Just, is comparable from the standpoint of scientific contribution. Dr. Julian is unique, however, in that since the days of his youth he has always been actively involved in working for the solution of the great social problems of our time along with his scientific pursuits. His matching effectiveness in professional and voluntary areas has made him a rare and outstanding example of what the good citizen can do.

Now an amazingly vigorous 72, Dr. Julian has withstood during his career some mighty clouts from the slings and arrows of outrageous fortune. But as he is wont to say, he never looked behind. He is still moving forward and his plough must have already earned for him a high place in the Kingdom.

The chemical researches of Dr. Julian have led to 162 publications and 105 patents—66 assigned to the Glidden Co.; 4 to the Charles Pfizer Co.; 14 to the pharmaceutical firm of Smith, Kline and French; and 21 to his own Julian Laboratories, Inc. He continues to be a consultant of Smith, Kline and French, the Upjohn Company, and Ciba, Ltd., Basle, Switzerland.

Many of Dr. Julian's chemical investigations have been medically oriented and applied. These have been concerned with the successful synthesis of physostigmine; the synthesis of the female sex hormone, progesterone; and the synthesis of a Compound "S" from soya bean sterols, which when injected into "live" cattle adrenals and extracted, results in an almost equivalent amount of hydrocortisone, the most active of the three major adrenal steroids—cortisone, hydrocortisone and cortexolone.

In the course of studies on the tryptophane—kyneurine pathway and on the yohimbine ring structure, Dr. Julian's synthesis of oxindole alanine and dioxindole alanine eliminated both of the latter compounds as possible intermediates in the conversion of tryptophane into kyneurine. However, his synthesis of the yohimbine skeleton paved the way to a complete synthesis of reserpine and elucidated the evamine ring closure as a very

useful tool in studies on the structure and synthesis of many alkaloids remotely related to yohimbine and reserpine.

Dr. Julian's laboratory has prepared and sold pre-Vitamin D₃ for the manufacture of Vitamin D itself since 1946. It still has more than 50 per cent of the business for this preparation in the United States. Dr. Julian continues to study the metabolic pathways of Vitamin D and considers the synthesis of recently isolated metabolites of Vitamin D₃ to be quite a challenge to chemists.

The full scope of Dr. Julian's research is indicated in the list of publications appended to this article.

In becoming a distinguished chemist whose work has had many significant medical applications, Dr. Julian has satisfied his own childhood aspirations and indirectly these of his father. Dr. Julian was born on April 11, 1899, in Montgomery, Alabama, one of six children of James Sumner and Elizabeth Lena Adams Julian. His father was a railway mail clerk. In those days, as Dr. Julian puts it, "the only black families that enjoyed 'near middle class' or better, 'near lower middle class' status were those of a black physician, an undertaker, or of a Federal employee." His father belonged to the latter group. He wanted Percy to study medicine. When Percy insisted he wanted to be a chemist his father nearly had a heart attack. "You mean then that you want to be a teacher, for that's all *your* becoming a chemist *can* mean. And *that in totality means* you're going to starve to death." The elder Julian was only too familiar with the fate of any black who dared to aspire to a scientific career from what had happened to teachers in the black institutions of that day.

Dr. Julian recognizes that his father "had that gift of imagination and correlation which could have made him a most brilliant scientist. He was a mathematical genius. His modest library contained all the books he could buy on, 'Natural Philosophy,' on Herbert Spencer, etc. and he never ceased increasing his knowledge of mathematics until his death at 81 years of age."

The force of the family urge for education and the realization of the father's stimulus toward medicine is reflected in the fact that Dr. Julian's two brothers did become physicians (James Sumner, Jr., M.D., Howard,

'32, and Emerson Richlieu, M.D., Howard, '42) and his three sisters all earned masters degrees.

Young Percy attended elementary school in Montgomery and was then sent to the State Normal School for Negroes, a private institution in his home city, from which he graduated in 1916, and was admitted to De Pauw University in Greencastle, Indiana. Dr. Julian still recalls the scene of his family from the train window when he left for college. There were his 99 year old grandmother, who had once picked a record 350 pounds of cotton in one day; his grandfather, waving a hand from which two fingers were missing, the penalty for having learned to write; and his parents. This was a soul-searing reminder of the wrongs of slave days which fired Dr. Julian's determination to achieve and add some correctives.

At De Pauw, Dr. Julian's preparation was found to have been so poor that he had to take what are today called "remedial" courses for two years. He slept in the attic of a white fraternity house where he worked as a waiter. Yet he gradually surged forward until he was elected to Phi Beta Kappa and Sigma Xi honor societies and graduated in 1920 with the A.B. as valedictorian and top man of his class.

Dr. Julian had wanted to go on to graduate study in chemistry. It had been the custom at De Pauw as at other colleges for the department head to find fellowships for the majors who wished to continue for the Ph.D. His classmates, moreover, had expected he would be offered a plum because of his record. But this was not to be. His major professor called him into his office and told him what every Negro of his generation will recognize as "the old, old story." He was shown letters from prominent university chemists which said in effect, "Discourage your bright colored lad. We couldn't get him a job when he's done, and it'll only mean frustration. In industry, research demands co-work, and white boys would so sabotage his work that an industrial research leader would go crazy! And, of course, we couldn't find him a job as a teacher in a white university. Why don't you find him a teaching job in a Negro college in the South? He doesn't need a Ph.D. for that."¹

Without alternative, Dr. Julian had to follow this course and served the next two years, 1920-22, as an instructor in chemistry at Fisk University. He then received an Austin fellowship in chemistry at Harvard University which awarded him the A.M. in 1923. Again he was not offered the inducement generally accorded students with his record. Harvard did not proffer him a post as a teaching assistant lest Southern students be offended by having a Negro teacher, but he remained there with the aid of minor fellowships studying bio-physics and organic chemistry until 1926 when he went to West Virginia State College as professor of chemistry in a one man department. There he remained one year.

In 1928 he was called to Howard University as associate professor and head of the Department of Chemistry. This post he viewed as a tremendous opportunity. Never did man plunge into a job with more vim and enthusiasm. He worked day and night, living and breath-

ing chemistry, as he still does. In the short-handed laboratory he did everything from administration to diener's chores. He was a brilliant and magnetic lecturer and ignited in associates as well as students the flame of his enthusiasm. He was always discussing research problems. A visitor might find him washing shelves because there was no one else to do it, and be intrigued with his verbal portrayal of possible changes in a given molecule by grafts of different atoms and the altered properties of the substance so induced. If friends dropped in after what be a normal closing time, they would be taken home with him, along with one or two associates generally, and the conversations on chemistry would be interwoven with preparation of a meal, dining and the warm hospitality of a genial host.

In 1929 he received a General Education Board fellowship after unwittingly having greatly impressed the head of the Rockefeller Foundation with his ability and character. With this aid he went to Austria where he worked under the eminent Dr. Ernst Späth and received the Ph.D. from the University of Vienna in 1931. He returned immediately to Howard and was promoted to the rank of full professor, driving with renewed vigor toward his goal of building a great department.

But during his absence forces of evil had been in operation. It has been said that one of the marks of Leonardo's genius was his placement of Judas once removed from Jesus in his painting, The Last Supper, because the greatest betrayal often comes from the seat of greatest trust. This Dr. Julian came to learn first hand. He resigned his position in 1932. He left as his permanent monument at Howard its present Chemistry Building which he designed and which was dedicated by President Franklin D. Roosevelt in 1934.

The four years, 1932-36, Dr. Julian spent as a research fellow in organic chemistry at his alma mater, De Pauw University. His reputation as a chemical investigator grew rapidly and in 1935 he was strongly recommended for a faculty post at the University of Minnesota but his endorsers were told that the regents of the institution would not appoint a black man to the faculty. In 1936 the head of his department at De Pauw and the president of the University formally recommended his appointment as a professor and again it developed that the trustees of the institution were not ready to appoint a Negro to the faculty. In disgust Dr. Julian decided to leave the academic world and take his chances in industry with all the hazards already known to him.

Accordingly, he accepted a position on the research staff of the Institute of Paper Chemistry in Appleton, Wisconsin, only for him and his employers to discover later that an old city statute forbade the "housing of a Negro overnight." Shortly thereafter the vice president of the Glidden Company of Chicago, one of the nation's largest manufacturers of paints and varnishes, offered Dr. Julian the post of director of research of the company's Soya Products Division, the Vegetable Oil and Food Division and manager of Fine Chemicals. This was the turning point in Julian's career and a major breakthrough for a Negro scientist. For the first time a Negro was able to direct a modern industrial laboratory employing chem-

ists of various ethnic origins. This opportunity did very well for Dr. Julian and for all he symbolized and strove.

Dr. Julian's first assignment with the Glidden Company was the development of a new process for the isolation and preparation of soya-bean protein for use in the coating of paper in cold water paints and in textiles. This work was so successful that the company's profit from these products rose from \$35,000 to \$135,000 in one year.

Soya beans had first come to Dr. Julian's attention while he was in Vienna. There he had noted their use by German chemists for the preparation of male and female sex hormones and for the manufacture of physostigmine. Julian had begun his work on the synthesis of physostigmine at Howard and successfully completed it at De Pauw. Now at Glidden he perfected a method for extracting sterols from soya bean oil which permitted the manufacture of sex hormones at much lower cost than had been hitherto possible. Dr. Julian's versatility as a chemist and his success with numerous investigations with the Glidden Company brought him both appreciation and income.

In 1954 he decided to open his own plant and founded the Julian Laboratories, Inc. in Chicago and the Laboratorios Julian de Mexico, in Mexico City. Later he became founder-president of Empress Agro-Quimica Guatemaleca, Guatemala. Dr. Julian had found that wild yams of Mexico were even better than the soya bean for the production of his Substance S used in the manufacture of synthetic cortisone. In a few years the Julian Laboratories came to be one of the world's largest producers of drugs from wild yams, processed first in the firm's Mexican plant and refined in the Oak Park (Chicago) laboratories.

In 1961 Dr. Julian sold his Oak Park plant to the firm of Smith, Kline & French for \$2,338,000, remaining as president at a generous salary. In the same year the Guatemala plant became the property of the Upjohn Company. In 1964 he founded the Julian Research Institute, which he serves as director, and Julian Associates, Inc. of which he is president, in Franklin Park, Illinois.

As long ago as 1950, however, when both fame and financial security had begun to come his way so that he had bought and moved into a home in an exclusive residential area in Oak Park, Dr. Julian did not enjoy the physical security which is every citizen's right under the American system. On Thanksgiving Day arsonists attempted to burn down the home of the first black neighbor in a previously all white community. Public opinion was outraged. An editorial in the Chicago Sun stated:

Arsonists tried to burn down the newly purchased home of Dr. Percy Julian to keep him out of Oak Park because he is a Negro. We wonder whether these cowards whose mad prejudice drove them to commit a felony would refuse to use the lifesaving discoveries of Dr. Julian because they came from the hand and brain of a Negro. Would they refuse to take synthetic cortisone if they were wracked with the pain of arthritis? Would they forbid their wives the use of synthetic female hormone now abundantly available because of Dr. Julian's work? Would they refuse to use his synthetic physostigmine if they were afflicted with the dread eye disease, glaucoma? If they themselves were caught in a raging gasoline fire such as they tried to set, would they order the firemen not to use Dr. Julian's great discovery, chemical foam. This stuff saved the lives of thousands of American

airmen and sailors after crash landings during the war. No! The bigots welcome the discoveries of Dr. Julian the scientist, but they try to exclude Dr. Julian the human being.

However, less than a year later, on June 12, 1951, a dynamite bomb was tossed at the house from a speeding car. It exploded beneath the bedroom window of the two Julian children, Faith, aged 7 and Percy, Jr., aged 11. The parents were in Baltimore attending the funeral of Dr. Julian's father, but the children were not harmed. Again there was a great public expression of indignation. Forty-six Oak Park neighbors signed a letter of apology published in the Sun Times of July 3, 1951, which read:

We, as citizens of Oak Park, wish to express the dismay and indignation we feel regarding the further attack on the sanctity and security of Dr. Julian's home. We ask Dr. Julian and his family to accept our sincere apology that such un-American and bigoted action should occur in our village. We welcome them to Oak Park and are honored that they should desire to live among us. We assure them that we wish to do everything within our power to make them our real neighbors.

This sentiment, however, did not produce change in the basic attitudes in Chicago at that time. Later in the same summer Dr. Julian had been invited to attend a national meeting of scientists at the Union League Club. He was informed an hour beforehand that the rules of the club prohibited the attendance of a Negro at any function there. He commented, "It appears to me that organizations like the Union League Club are as directly responsible as any other agency for such un-American incidents as the bombing of my home in Oak Park and the Cicero riots."²

One might wonder that Dr. Julian had not been implacably embittered by such a lifelong experience of racial prejudice in the face of ever growing personal achievement. We find, however, that ever since his college days he has been, without remission, a fighter against racism. The writer recalls his being in demand as a speaker for forums at Harvard in 1923 when he was working for the masters in chemistry. His addresses, published and unpublished, in the realm of social justice and human advancement are almost countless.

He has been active on almost every conceivable front and always in a constructive manner. He has made himself, his wife, his son and his daughter all life members of the NAACP. As a trustee of Howard, during the student occupation of the Administration Building in 1968, he argued long and finally persuasively with the students for many hours to leave and not give the police an opportunity to crack their heads. Though he had personally suffered more from racism than most of them had read about, he knew they were on the wrong course and had the courage at unknown risk to give them the benefit of his wisdom.

Dr. Julian has been the recipient of 15 honorary degrees: the D.Sc. from De Pauw University ('47), Fisk University ('47), West Virginia State College ('48), Northeastern University ('48), Morgan State College ('50), Howard University ('51), Lincoln University, Pa., ('54), Roosevelt University ('61), Virginia State College ('62), Morehouse College ('63), Oberlin College ('64), and Indiana University ('69). In 1969 he was awarded the LL.D. by Lafayette College and the L.H.D. by MacMurray College.

His numerous awards and citations include the Spingarn Medal of the NAACP ('47), the Distinguished Service Award of the Phi Beta Kappa Association of the Chicago Area ('49), the Chicagoan of the Year Award from the Sun Times and Junior Chamber of Commerce ('50), the Old Gold Goblet Award of De Pauw University ('51), the Centennial Distinguished Citizen Award of Northwestern University ('51), the Distinguished Merit Award of the Decalogue Society of Lawyers, Chicago ('51), the Social Action Churchmanship Award of the Congregational Christian Churches, New Haven Conference ('54), the Jesuit Centennial Award as one of One Hundred Outstanding Chicagoans ('57), the Layman of the Year Award of the Church Federation of Greater Chicago ('64), the Scroll of Honor Award of the American Institute of Chemists ('64), the Silver Plaque Award of the National Conference of Christians and Jews ('65), the Founder's Day Award of Loyola University ('67), the Merit Award of the Chicago Technical Societies Council ('67) and the Chemical Pioneer Award of the American Institute of Chemists ('68).

The great personal qualities which have marked Dr. Julian as a scientist and humanist have caused him to be the subject of biographical sketches in several national periodicals: 1) The Man Who Wouldn't Give Up. *Readers Digest*, August, 1946; 2) In the Shake of a Hand. *Milwaukee Journal*, August 1, 1947; 3) Slavery's Grandchildren. *Coronet*, January 1948; 4) The House that Soya Built. *Fortune*, May 1949; 5) The Man Who Wouldn't Give Up. *Advance Magazine*, December 8, 1952; 6) Julian Aids Mankind, *Chicago Tribune*, January 6, 1963; 7) Chemist With a Cause. *The Rotarian*, June 1963.

Dr. Julian's wife, Mrs. Anna Johnson Julian, Phi Beta Kappa graduate of the University of Pennsylvania and holder of the Ph.D. from that institution, shares Dr. Julian's perceptions and values. She is active on numerous boards and is involved in many civic enterprises. His son, Percy L., Jr. a graduate of Oberlin College and the University of Wisconsin Law School, is now a practicing attorney in Madison, Wisconsin, with two children of his own. Dr. Julian's daughter, Faith, is a student at Roosevelt University.

Howard University, which allowed Dr. Julian to leave in 1932, was proud to award him an honorary degree in 1951 and is more honored still to have him as a member of the Executive Committee of its Board of Trustees in 1971. Thus it has been fulfilled in the case of Dr. Julian that after all his trials and tribulations the "Lord gave Job twice as much as he had before." Behold, "this is the stone which was set at nought of you builders, which is become the head of the corner."

W. MONTAGUE COBB, M.D.

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